




Module 7.

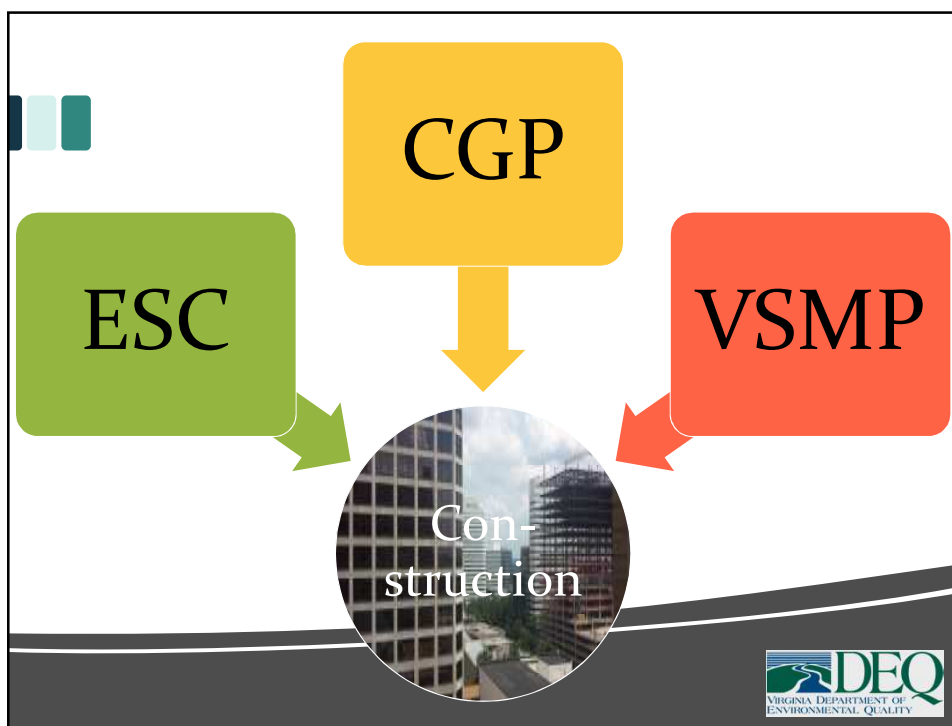
The CGP, VSMP, ESCP, VWP and the ESC and SW Professional



Land Development and the ESC/SW Regulator

- Planning/Plan Review
- Construction
 - Clearing/Filling/Excavating
 - Discharge
 - Soil/Infiltration
 - P2
- Post Construction
 - Discharge
 - Maintenance





Construction General Permit

Part II.A.1.e Site plans shall identify:

1. Stormwater flow and approximate slope after major grading
2. Limits of grading, including steep slopes and natural buffers around surface waters that will not be disturbed
3.
4. Location of surface waters
5. Location where concentrated stormwater is discharged
6. Location of support activities (including vehicle washing)



Construction General Permit

Part II.A.2.c Site plans shall:

- 6. Provide and maintain natural buffers around surface waters ...

Part II.B.4 SWPPP Amendments, modification and updates:

- e. The date of any prohibited discharges, the discharge volume released, and what actions were taken to minimize the impact of the release;
- f. Measures taken to prevent the reoccurrence of any prohibited discharge;



Construction General Permit

Part II.F.3. SWPPP Inspections

- (2) Record keeping of discharges
- (3) Record keeping of unauthorized land disturbance
- (7) Inspect for ESC plan implementation, including discharge to surface water (c)
- (10) Identify and document discharge of prohibited pollutants

Part II.F.4. SWPPP Inspection Reports

- c. The location(s) of prohibited discharges





Construction General Permit

Part II.G. Corrective Actions:

2. The operator may be required to remove accumulated sediment deposits located outside of the construction activity covered by this general permit as soon as practicable in order to minimize environmental impacts. The operator shall notify the VSMP authority and the department as well as obtain all applicable federal, state, and local authorizations, approvals, and permits prior to the removal of sediments accumulated in surface waters including wetlands.



Wetlands, Streams and Site Plans


All Permitted Impact Areas:

- Shown on plan

Temporary Impact Areas:

- Minimize clearing and disturbance
- Stabilized immediately
- Use mats to minimize compaction
- Reseed







Wetlands, Streams and Site Plans

Wetlands/Natural Resources Adjacent to Construction Site:


- Maintain vegetated buffer
- Adequate ESC controls (i.e., no silt fence across concentrated flow)
- Control concentrated flows
- Construction sequence




Wetlands, Streams and Site Plans

Don't forget support sites (areas outside the impact area):


- Construction access
- Laydown areas
- Stockpiles
- Borrow sites
- Launch area
- Storage yards





Wetlands in ESC

MS

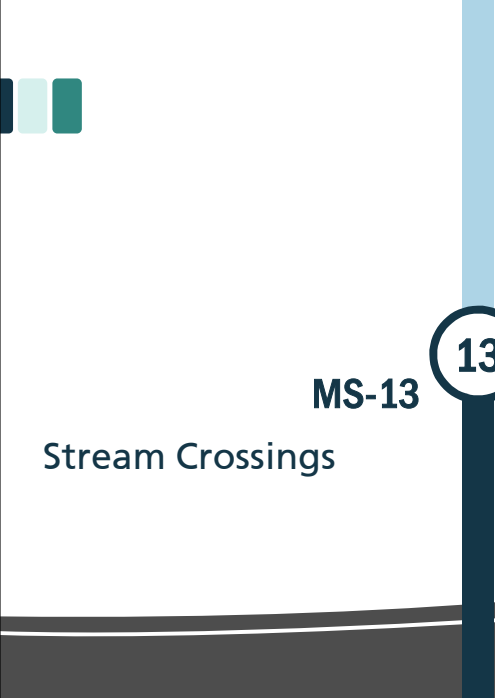


12

MS-12


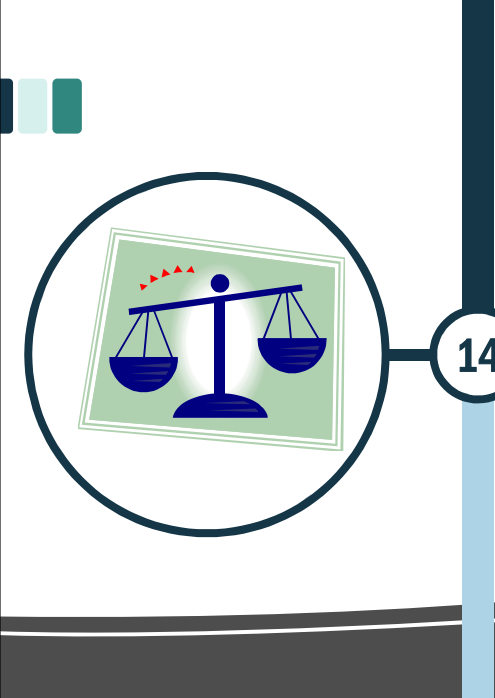


Minimize encroachment
and stabilize work area






MS-13

Stream Crossings



MS-14



Other relevant laws,
regulations and
requirements



MS-15

15



Immediate Stabilization




22

BMP 3.22

Vegetative Streambank Stabilization







BMP 3.23

Structural
Streambank
Stabilization

23




BMP 3.24

Temporary Vehicular
Crossing

24








BMP 3.25

Utility Stream Crossing



25



BMP 3.26

Dewatering Structures

26

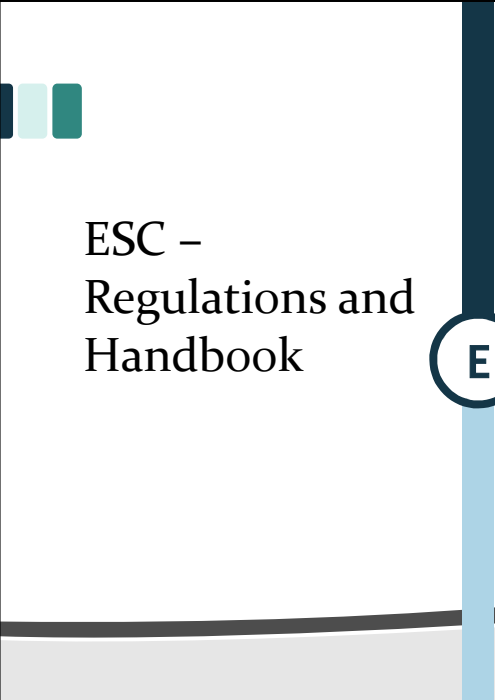





BMP 3.27
Turbidity Curtains




27



ESC –
Regulations and
Handbook



E





Module 7a

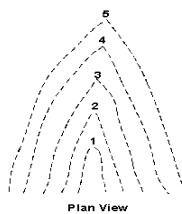
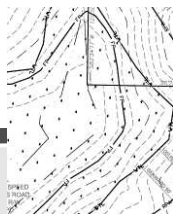
Plan Reviewers (and Inspectors)



Plan Reviewers

Potential wetlands/waters of the US or Surface Waters of the Commonwealth?

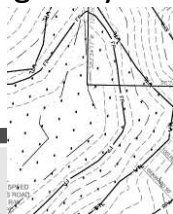
1. Existing contours indicate depression in landscape
2. Large flat areas especially bounded by steep slopes on two or more sides
3. Drainage ways as indicated by contours



Plan Reviewers

Potential wetlands/waters of the US

1. Existing contours indicate
2. Large flat areas especially on two or more sides
3. Drainage ways as indicated



Plan Reviewers

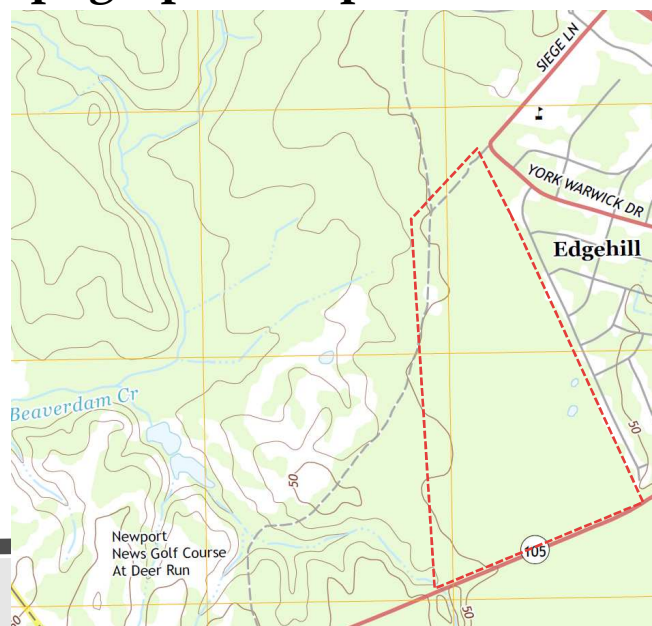
Then What?

Check:

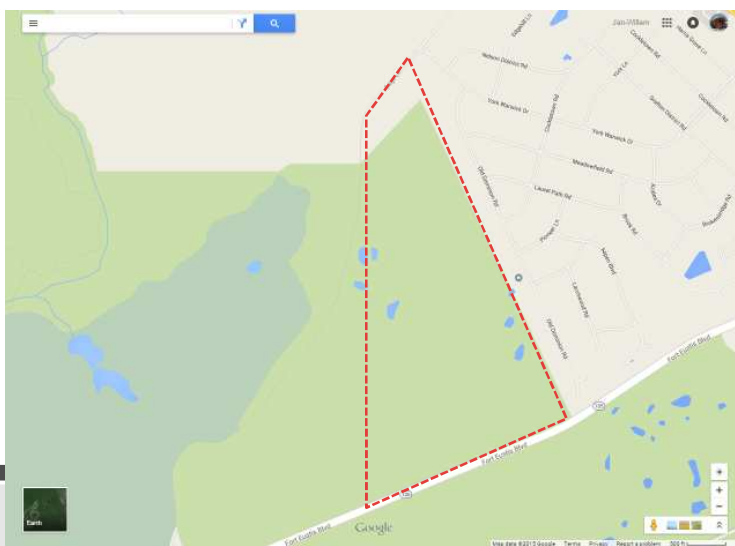
- Topographic maps
- County's Digital Ortho Photography
- NFWS National Wetlands Inventory Maps (NWI)
- Google Earth (also has historic photographs)
- Soil Survey (digital or printed)



Topographic Maps



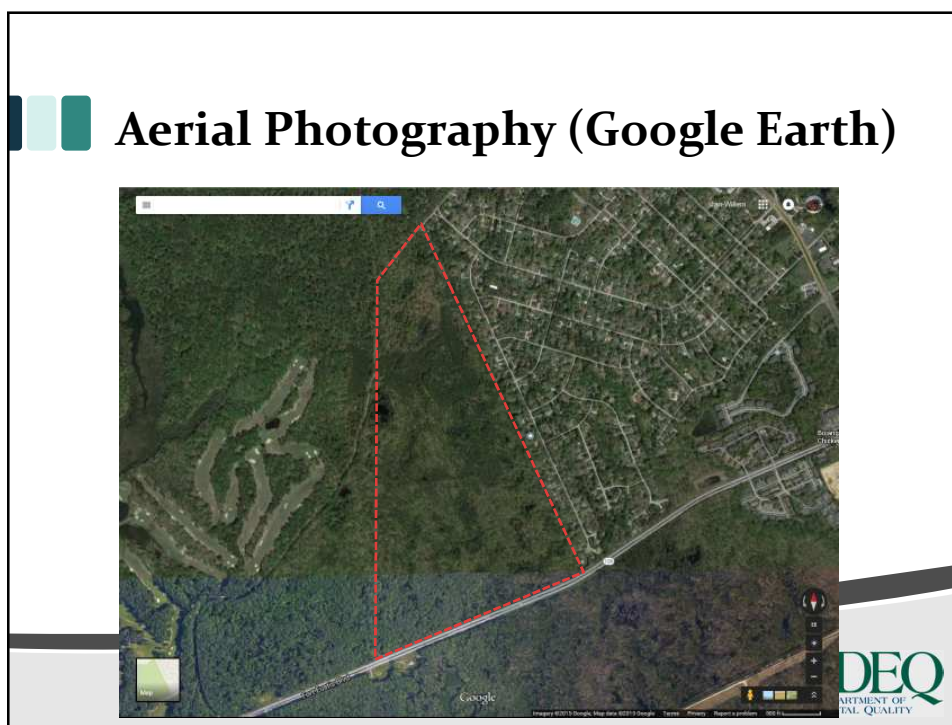
Aerial Photography (Google Earth)



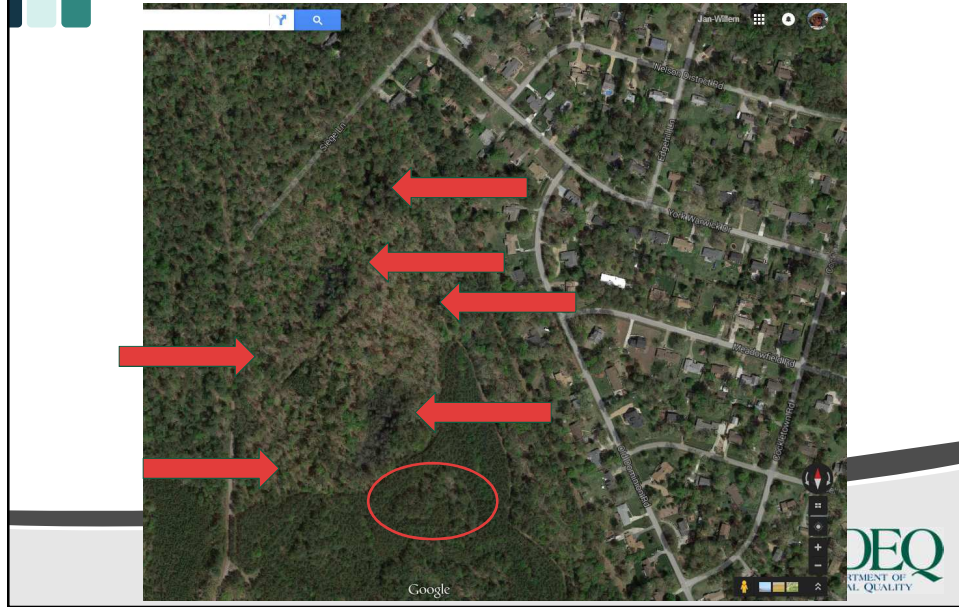
NWI Maps



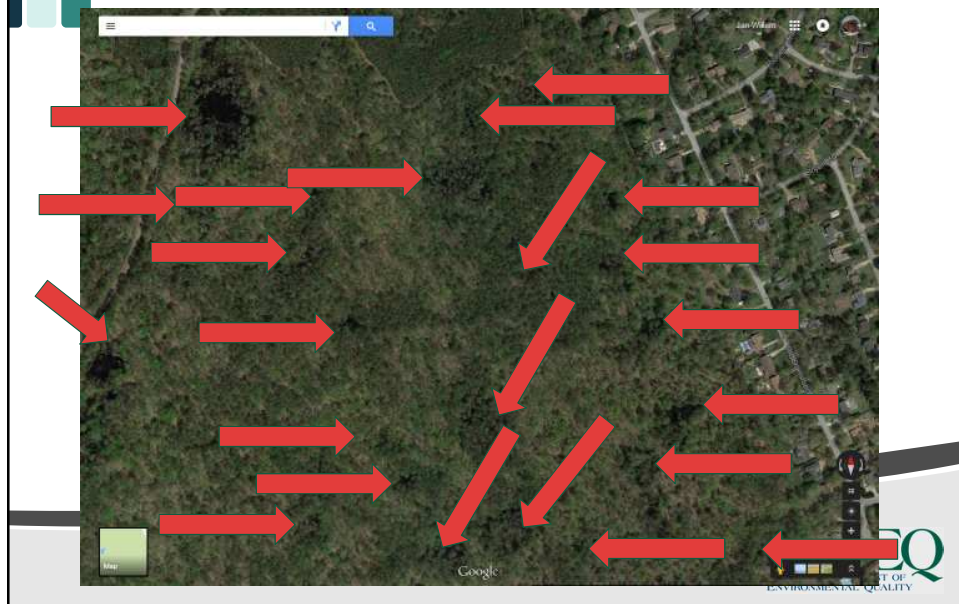
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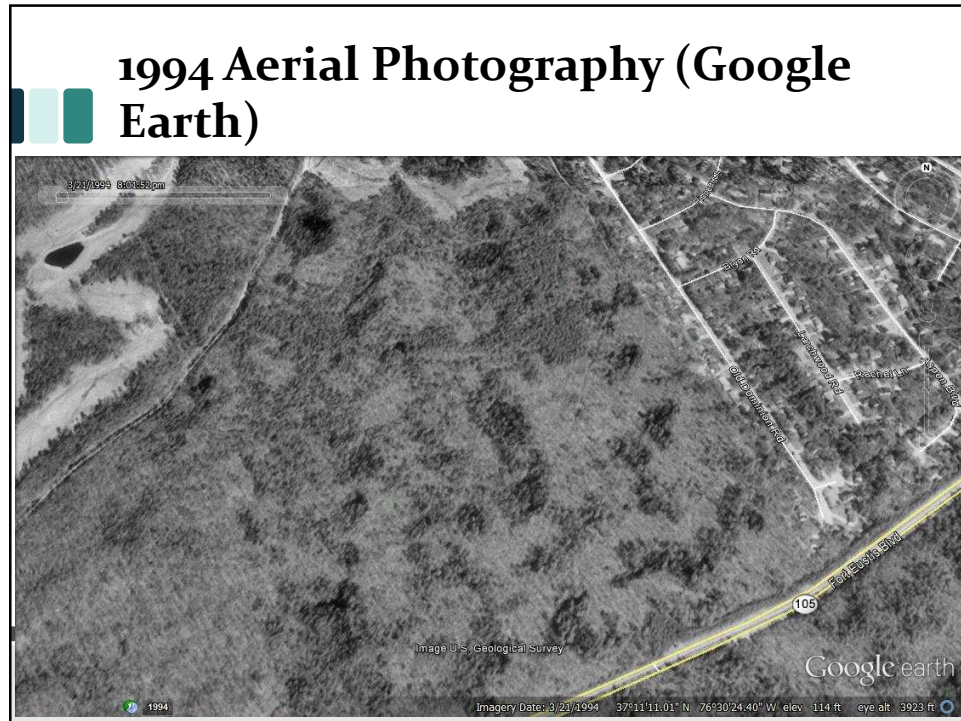


Aerial Photography (Google Earth)

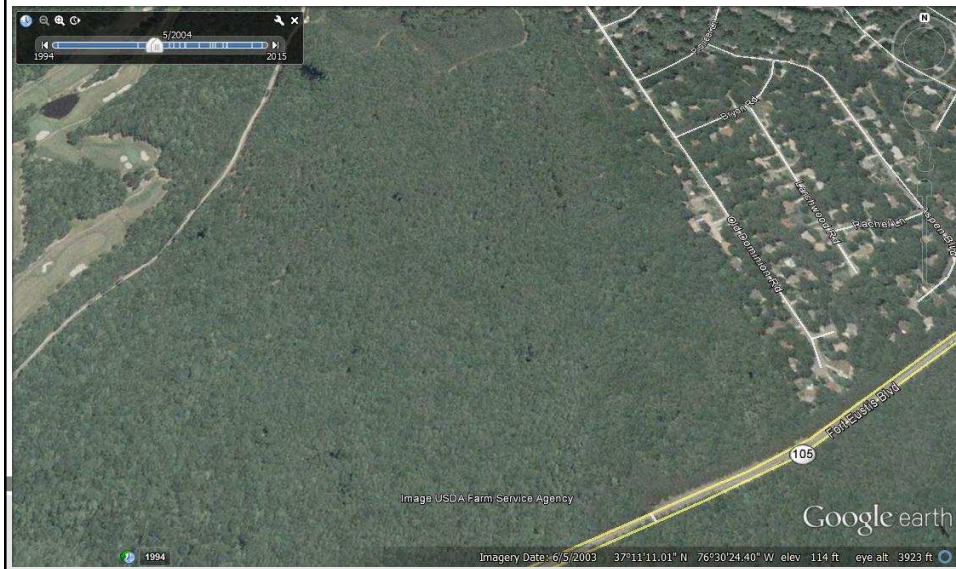


Aerial Photography (Google Earth)

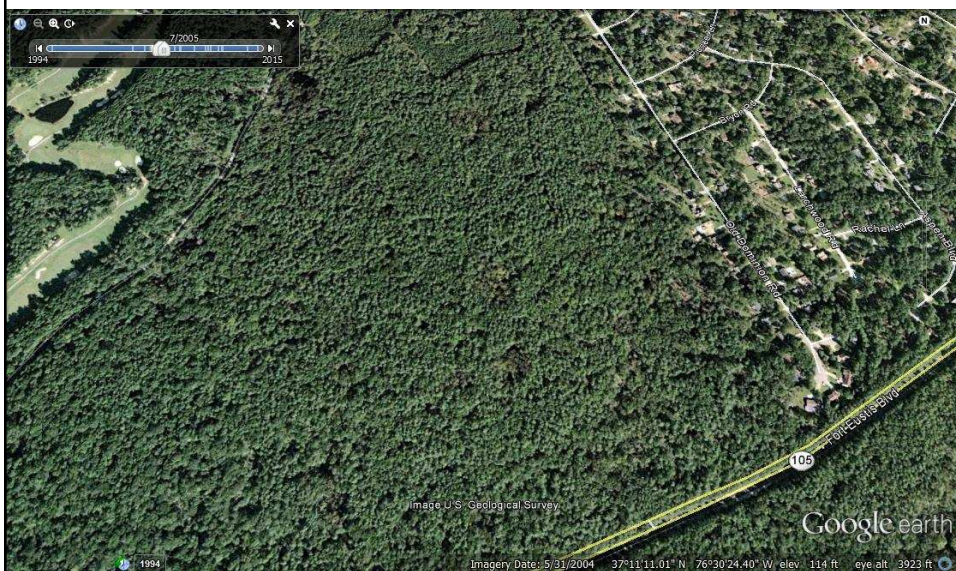




2003 Aerial Photography (Google Earth)




2004 Aerial Photography (Google Earth)



Aerial Photography (Google Earth)

- 2006
- 2007
- 2008
- 2010



2011 Aerial Photography (Google Earth)

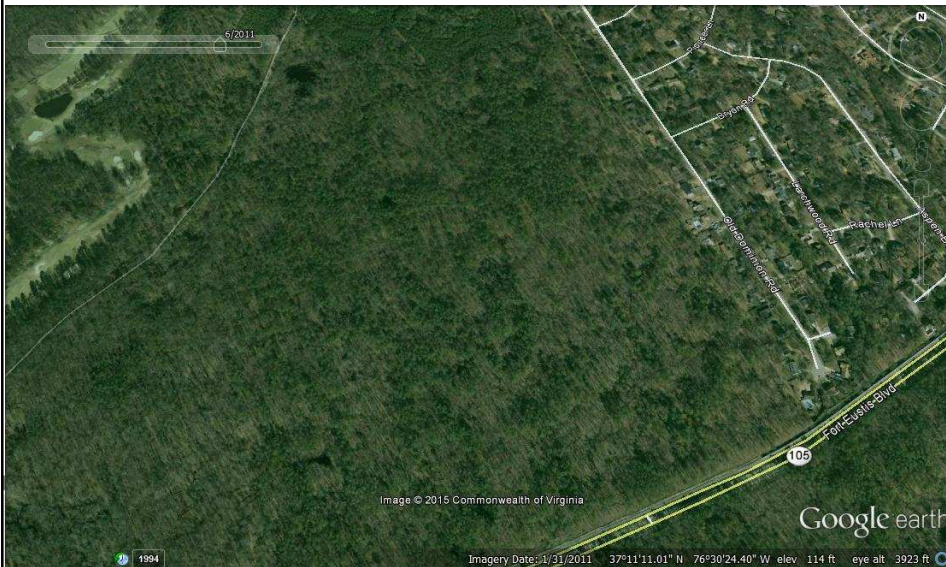
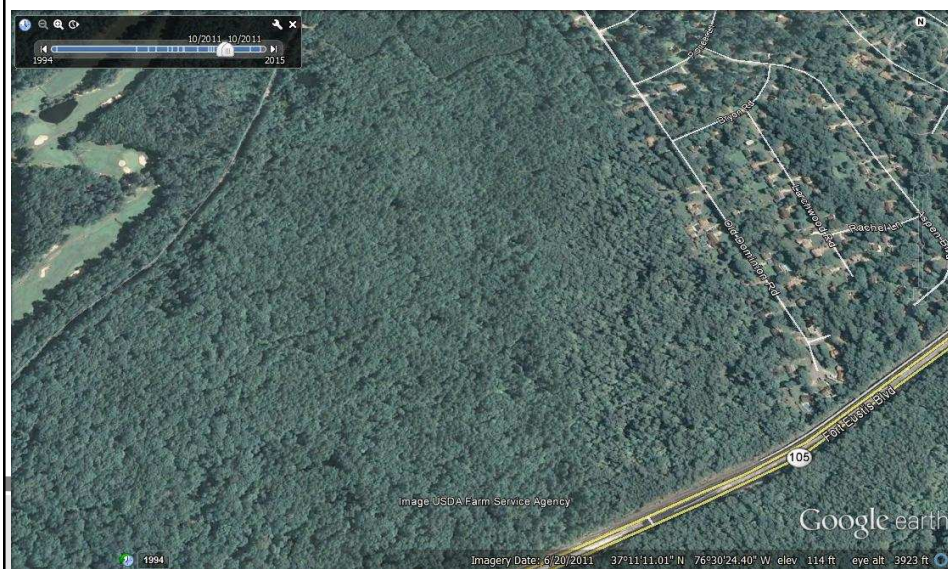


Image © 2015 Commonwealth of Virginia

Google earth

Imagery Date: 6/31/2011 37°11'11.01" N 76°30'24.40" W elev 114 ft eye alt 3923 ft

2011 Aerial Photography (Google Earth)



Soil Maps (Web Soil Survey)

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
5	Bethers silt loam	123.1	58.7%
11C	Craven-Uchire complex, 6 to 10 percent slopes	1.1	0.5%
16	Izagora loam	67.1	32.0%
17	Johnston complex	0.0	0.0%
29B	Stagle fine sandy loam, 2 to 6 percent slopes	17.1	8.1%
38	Yemassee fine sandy loam	1.4	0.7%
Totals for Area of Interest		209.8	100.0%



Soil Maps (Web Soil Survey)

Hydric Rating by Map Unit


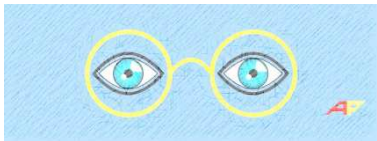
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
5	Bethers silt loam	85	123.1	58.7%
11C	Craven-Juchee complex, 8 to 10 percent slopes	0	1.1	0.5%
16	Izagora loam	3	67.1	32.0%
17	Johnston complex	100	0.0	0.0%
29B	Slagle fine sandy loam, 2 to 6 percent slopes	3	17.1	8.1%
38	Yemassee fine sandy loam	5	1.4	0.7%
Totals for Area of Interest			209.8	100.0%




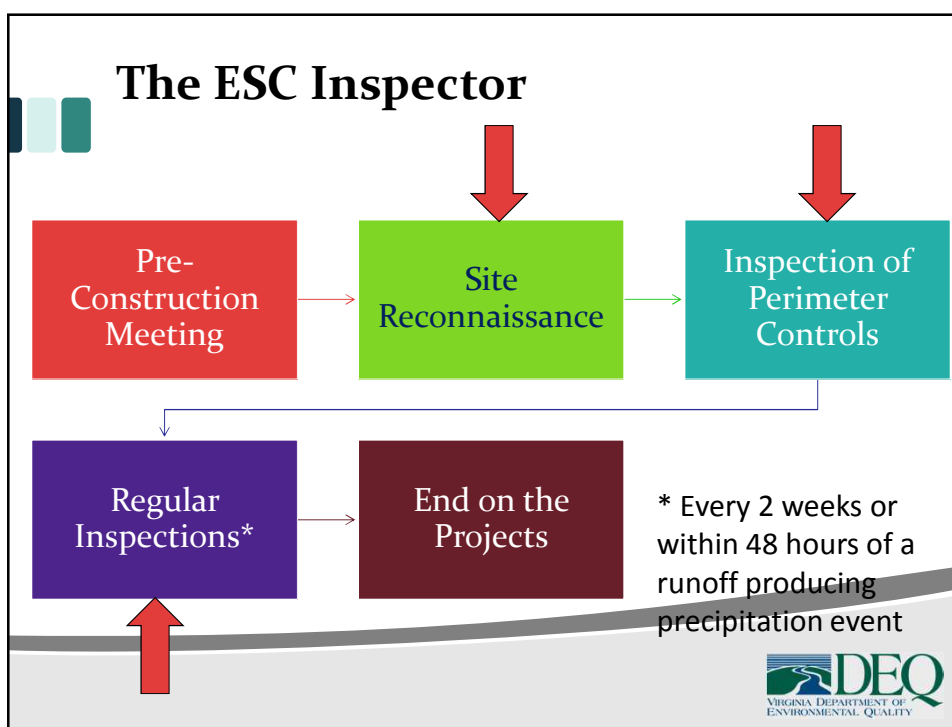
Module 7b

Inspectors

Inspector

- You have the same tools as the plan reviewer, **and**
- You have your legs and eyes (in the field)!

The VSMP Inspector *

Compliance with:

- ❖ ESC plan
 - ❖ P2 plan
- } Discharge from project into wetlands and streams



* Inspections are done periodically, randomly, and/or as a result of a complaint



Inspectors: In the Beginning

Look through the plan:

- Narrative:
 - Adjacent Properties
 - Critical Areas
- Illustrative
 - Existing site conditions (contours, adjacent areas)
 - Drainage areas, direction of drainage

Inspectors: In the Beginning

Additional Checks:

- Topographic maps
- County's Digital Ortho Photography
- NFWS National Wetlands Inventory Maps (NWI)
- Google Earth (also has historic photographs)
- Soil Survey (digital or printed)



Pre Construction Meeting/Site Reconnaissance

During the meeting:

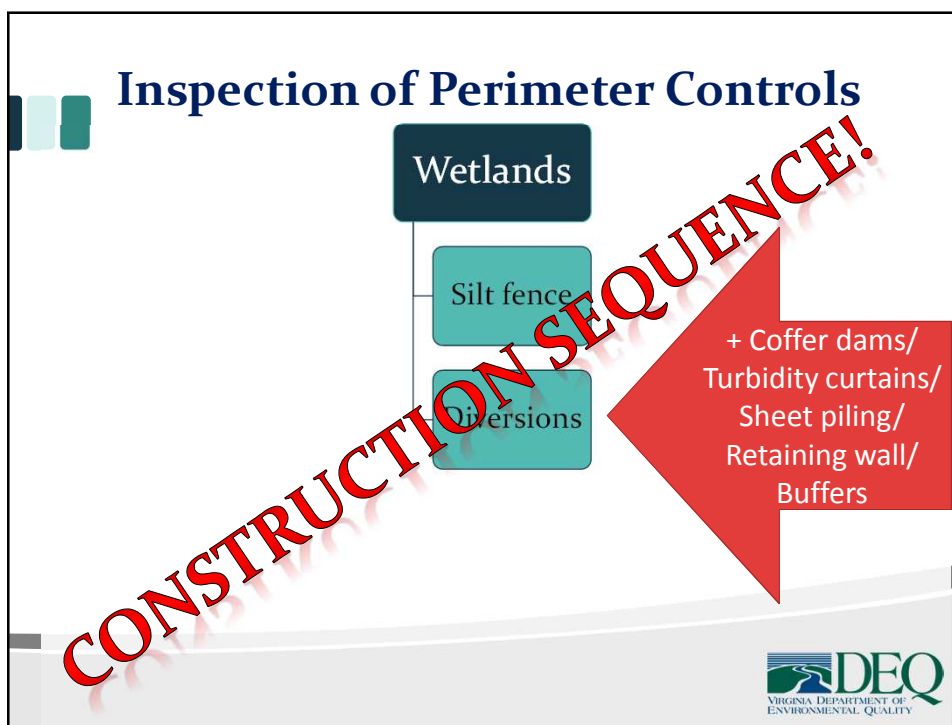
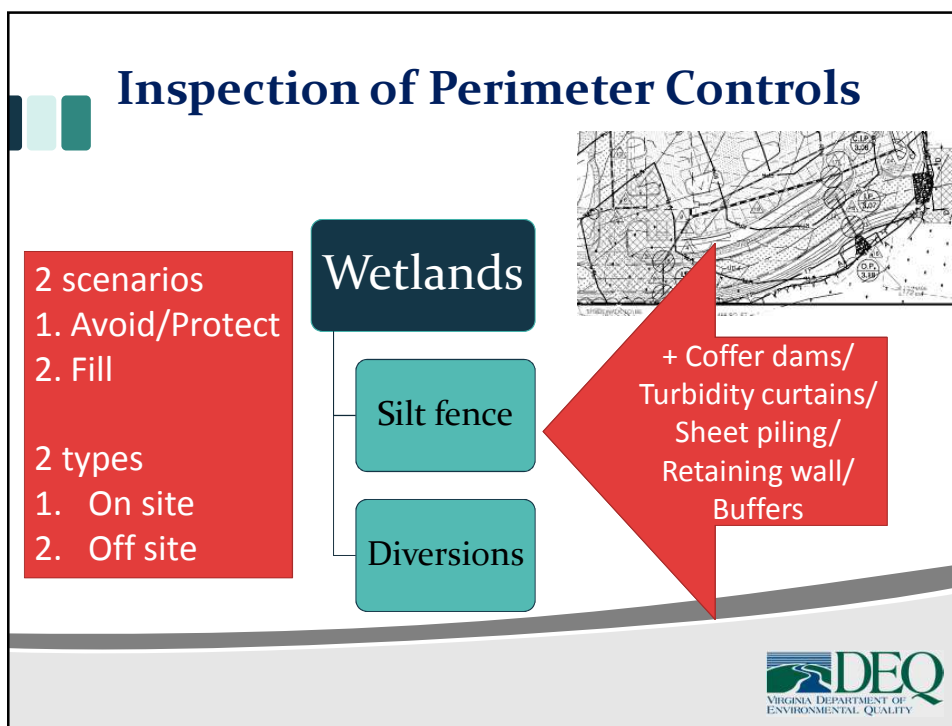
- If wetland permits are involved, ask to see them and look through them

During the site reconnaissance:

- Visit the wetlands that will be filled and learn!
- Walk the perimeter to look for critical areas (i.e. wetlands, streams, drainage ways) that might be impacted by sediment leaving our site*. Take (before) photographs!

* Note: Water and sediment will leave a site at its lowest points, this is also usually where wetlands and streams are located





■ ■ ■ Inspection During Construction

- Inspect perimeter controls especially in and near wetlands, streams and drainage ways
- P2 Inspections!



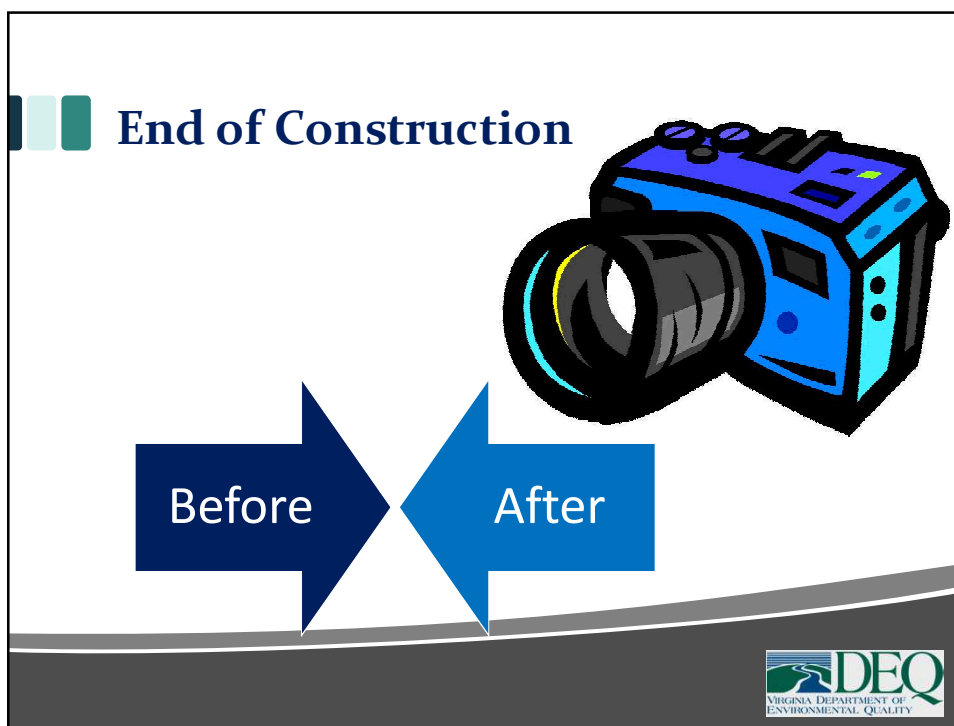
Remember: Water and suspended and dissolved pollutants flow down hill!



■ ■ ■ Wetlands and construction sites

If you don't have a permit stay out of the wetland!





Post Construction BMP Maintenance

- **Remember** Stormwater BMPs need to be recorded!
- The VWP Program encourages the establishment of a maintenance elevation when constructing a BMP that sets the level within the structure necessary for its designed function. Any sediments, including incidental wetlands, that develop below the maintenance elevation may be removed without a permit from the VWP Program, provided that elevation is established in a BMP maintenance plan.



